Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (cancelled).

Claim 13. (New) A method for minimizing total cost of interaction among at least a pair of components of a computer program, each of the components being characterized by at least one data representation property, the method comprising steps of:

a) carrying out at least a partial run of the program;

b) monitoring the at least partial run of the program to measure an amount of interaction between each pair of components;

c) determining a cost of interaction between each pair of interacting components;

d) determining a choice of properties which minimizes total cost of the at least partial run;

e) assigning the choice of the properties to the components for a subsequent at least partial run of the program.

Claim 14. (New) The method as set forth in Claim 13, the property comprising a choice of string representation of a component, the amount of interaction measured in step (b) comprising a frequency of interaction between each pair of interacting components; the cost of interaction comprising a function of the frequency and a cost of converting any differing string representations of the pair to a common string representation.

Claim 15. (New) The method as set forth in Claim 14, wherein at least one string representation is selected from ASCII, UNICODE, and EBCDIC.

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Claim 16. (New) The method as set forth in Claim 13, the data representation property comprising a choice of data structure of a component, the amount of interaction measured in step (b) comprising a frequency of interaction between each pair of interacting components; the cost of interaction comprising a function of the frequency and a cost of converting any differing choices of data structures of the pair to a common choice of data structure.

Claim 17. (New) The method as set forth in Claim 15, wherein at least one data structure is selected from hash, tree, and compressed data structures.

Claim 18. (New) The method as set forth in Claim 13, wherein the step (d) of determining the choice is carried out by building a graph with nodes representing program components and edges that join adjacent nodes representing interaction therebetween, each edge being characterized by a cost of each interaction, then using a graph cutting technique to find a minimum cut of the graph.

Claim 19. (New) A computer readable medium including computer instructions for carrying out a method for minimizing total cost of interaction among components of a computer program running on a computer system, the medium comprising instructions for:

   a) carrying out at least a partial run of the program;

   b) monitoring the at least partial run of the program to measure an amount of interaction between each pair of components;

   c) determining a cost of interaction between each pair of interacting components;

   d) determining a choice of implementation properties which minimizes total cost of the at least partial run;

   e) assigning the choice of the implementation properties to the components for a subsequent at least partial run of the program.

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Claim 20. (New) The computer readable medium as set forth in Claim 19, the data representation property comprising a choice of string representation of a component, the amount of interaction measured in instruction (b) comprising a frequency of interaction between each pair of interacting components; the cost of interaction comprising a function of the frequency and a cost of converting any differing string representations of the pair to a common string representation.

Claim 21. (New) A computer readable medium as set forth in Claim 20, wherein at least one string representation is selected from ASCII, UNICODE, and EBCDIC.

Claim 22. (New) The computer readable medium as set forth in Claim 19, the data representation property comprising a choice of data structure of a component, the amount of interaction measured in step (b) comprising a frequency of interaction between each pair of interacting components; the cost of interaction comprising a function of the frequency and a cost of converting any differing choices of data structures of the pair to a common choice of data structure.

Claim 23. (New) The computer readable medium as set forth in Claim 22, wherein at least one data structure is selected from hash, tree, and compressed data structures.

Claim 24. (New) The computer readable medium as set forth in Claim 19 wherein the instruction (d) of determining the choice is carried out by building a graph with nodes representing program components and edges that join adjacent nodes representing interaction therebetween, each edge being characterized by a cost of each interaction, then using a graph cutting technique to find a minimum cut of the graph.

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